

STATUS OF THE CLAIMS

Claims 1-22 were pending.

Claims 1 and 10-12 have been rejected under 35 U.S.C. § 102(b) as being anticipated by Bell, et al. (US 4,504,509) and Mizoguchi, et al (US 5,362,510).

Claims 2-6 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Bell, et al. (US 4,504,509) in view of Richards, et al. (US 4,035,235).

Claims 8 and 13-22 have been rejected under 35 U.S.C. § 103(a) as being patentable over Bell, et al. (US 4,504,509) in view of Wu et al. (US 5,648,110).

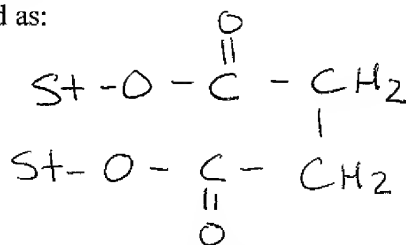
Claims 1, 2 and 7 have been rejected under 35 U.S.C. § 103(a) as being patentable over Shi, et al. (US 2003/0099744).

Claims 1-8 and 10-22 are presented for reconsideration.

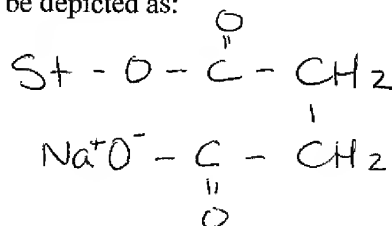
REMARKS

Claims 1 and 10-12 have been rejected under 35 U.S.C. § 102(b) as being anticipated by Bell, et al. (US 4,504,509) and Mizoguchi, et al. (US 5,362,510). Bell discloses a liquid batter for use in coating foodstuffs which comprises ungelatinized, highly crosslinked, high amylose starch. The crosslinking agent may be selected from the group specified in col. 3. The Examiner notes that one of these reagents is succinic anhydride. The skilled artisan would understand that crosslinking, such as with succinic anhydride, is a process in which starch is treated with a poly-functional reagent so that two or more starch polymer chains are chemically linked. See enclosed definition from the Food Starch Dictionary (www.foodinnovation.com). In contrast, the current invention claims a composition which comprises a starch succinate ester in which at least one of the hydroxyl groups on a single starch polymer is replaced by an ester group. This is not a *crosslinked* starch but a *substitution* in which the starch gains a substituent. See enclosed definition from the Food Starch Dictionary (www.foodinnovation.com). Thus, Bell teaches starch polymers that are linked together while the present invention teaches starches which are not linked together.

The Bell starch, two starch polymers crosslinked using succinic anhydride, would be depicted as:



while the presently claimed starch polymer, which has been esterified by succinic anhydride, would be depicted as:



wherein St represents the starch polymer. Clearly, these are two different molecules.

The Examiner states that Bell is silent as to whether the starch succinate is an ester. Applicants disagree in that Bell specifies that the starch is cross-linked. As is

clear from the evidence provided by Applicant, a substituted starch and a crosslinked starch are different entities.

Applicants submit the enclosed Billmers Declaration. Dr. Billmers is a PhD chemist with over 20 years of starch experience. It is Dr. Billmers conclusion that Bell teaches a crosslinked starch while the present invention teaches a different starch, one that has been substituted with an ester group. Thus, Bell teaches a different starch and the rejection in view of Bell has been overcome.

Claims 2-6 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Bell, et al. (US 4,504,509) in view of Richards, et al. (US 4,035,235). As explained above, Bell does not disclose using an esterified starch, but a crosslinked starch. The Examiner then uses Richards to teach that starch derivatives may be converted. However, as Bell does not teach the presently claimed starches, this rejection has been overcome.

Claims 8 and 13-22 have been rejected under 35 U.S.C. § 103(a) as being patentable over Bell, et al. (US 4,504,509) in view of Wu et al. (US 5,648,110). As explained above, Bell does not disclose using an esterified starch, but a crosslinked starch. The Examiner then uses Wu to teach that adding a different type of starch in addition to the main starch component. However, this does not cure the deficiency of Bell and the rejection is therefore overcome.

Claims 1, 2 and 7 have been rejected under 35 U.S.C. § 103(a) as being patentable over Shi, et al. (US 2003/0099744). Shi discloses glazing food using a converted starch. The starch may be modified using any chemical modification, specifying that particularly useful starches are acetylated, hydroxyalkylated, phosphorylated, succinated and substituted succinate derivatives. However, modification is only an optional step and succinated starch esters just one of the possible modifications with none of the examples showing such succinated starches. The Examiner states that Shi does not disclose the food composition is a fried composition but that it would have been obvious to one skilled in the art to make a fried composition when wanting food having a different texture and flavor. However, the skilled artisan would not be motivated from a reading of Shi to fry the Shi composition. One skilled in the art does not fry a glaze.

In view of the foregoing, Applicant submits the Application is now in condition for allowance and respectfully requests early notice to that effect.

Respectfully submitted,



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Starch ester - A chemically modified starch in which some of the hydroxyl groups have been replaced by ester groups. Acetylation with acetic anhydride is an example of starch esterification.

Crosslinked starch – Also known as crossbonded starch. Starch which has been treated with a bi-functional reagent so that a small number of the starch polymer chains are chemically linked by the cross linking reagent. Crosslinking inhibits granule swelling on gelatinization and gives increased stability to acid, heat treatment, and shear forces. Crosslinking is widely used to prepare chemically-modified starches for the processed food industry. Very low levels are used and these are approved by the FDA (CFR 172.892).